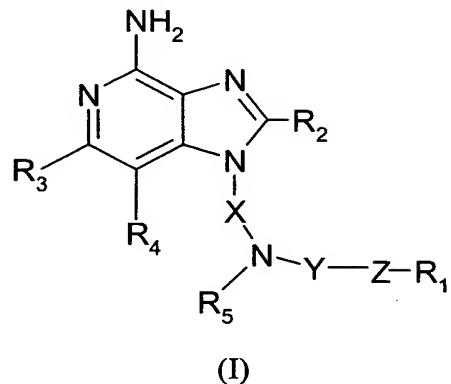


WHAT IS CLAIMED IS:

1. A compound of the formula (I):



wherein

X is alkylene or alkenylene;

Y is -CO- or -CS-;

10 **Z** is -NR₆-; -NR₆-CO-; -NR₆-SO₂-; or -NR₇-;

R₁ is aryl, heteroaryl, heterocyclyl, alkyl or

alkenyl, each of which may be unsubstituted or substituted by one or more substituents independently selected from the group consisting of:

-alkyl;

15 -alkenyl;

-aryl;

-heteroaryl;

-heterocyclyl;

-substituted cycloalkyl;

20 -substituted aryl;

-substituted heteroaryl;

substituted heterocyclyl;

-O-alkyl;

-O-(alkyl)₀₋₁-aryl;

25 -O-(alkyl)₀₋₁-substituted aryl;

-O-(alkyl)₀₋₁-heteroaryl;

-O-(alkyl)₀₋₁-substituted heteroaryl;

- O-(alkyl)₀₋₁-heterocyclyl;
- O-(alkyl)₀₋₁-substituted heterocyclyl;
- COOH;
- CO-O-alkyl;
- 5 -CO-alkyl;
- S(O)₀₋₂-alkyl;
- S(O)₀₋₂-(alkyl)₀₋₁-aryl;
- S(O)₀₋₂-(alkyl)₀₋₁-substituted aryl;
- S(O)₀₋₂-(alkyl)₀₋₁-heteroaryl;
- 10 -S(O)₀₋₂-(alkyl)₀₋₁-substituted heteroaryl;
- S(O)₀₋₂-(alkyl)₀₋₁-heterocyclyl;
- S(O)₀₋₂-(alkyl)₀₋₁-substituted heterocyclyl;
- (alkyl)₀₋₁-N(R₆)₂;
- (alkyl)₀₋₁-NR₆-CO-O-alkyl;
- 15 -(alkyl)₀₋₁-NR₆-CO-alkyl;
- (alkyl)₀₋₁-NR₆-CO-aryl;
- (alkyl)₀₋₁-NR₆-CO-substituted aryl;
- (alkyl)₀₋₁-NR₆-CO-heteroaryl;
- (alkyl)₀₋₁-NR₆-CO-substituted heteroaryl;
- 20 -P(O)(Oalkyl)₂;
- N₃;
- halogen;
- haloalkyl;
- haloalkoxy;
- 25 -CO-haloalkyl;
- CO-haloalkoxy;
- NO₂;
- CN;
- OH;
- 30 -SH; and in the case of alkyl, alkenyl, and heterocyclyl, oxo;

R₂ is selected from the group consisting of:

-hydrogen;
-alkyl;
-alkenyl;
-aryl;
5 -substituted aryl;
-heteroaryl;
-substituted heteroaryl;
-alkyl-O-alkyl;
-alkyl-S-alkyl;
10 -alkyl-O-aryl;
-alkyl-S-aryl;
-alkyl-O- alkenyl;
-alkyl-S- alkenyl; and
-alkyl or alkenyl substituted by one or more substituents selected
15 from the group consisting of:
-OH;
-halogen;
-N(R₆)₂;
-CO-N(R₆)₂;
-CS-N(R₆)₂;
20 -SO₂-N(R₆)₂;
-NR₆-CO-C₁₋₁₀ alkyl;
-NR₆-CS-C₁₋₁₀ alkyl;
-NR₆- SO₂-C₁₋₁₀ alkyl;
25 -CO-C₁₋₁₀ alkyl;
-CO-O-C₁₋₁₀ alkyl;
-N₃;
-aryl;
-substituted aryl;
30 -heteroaryl;
-substituted heteroaryl;
-heterocyclyl;

-substituted heterocyclyl;
-CO-aryl;
-CO-(substituted aryl);
-CO-heteroaryl; and
-CO-(substituted heteroaryl);

5

R₃ and **R₄** are independently selected from the group consisting of hydrogen, alkyl, alkenyl, halogen, alkoxy, amino, alkylamino, dialkylamino and alkylthio;

10 **R₅** is H or C₁₋₁₀ alkyl, or R₅ can join with X to form a ring that contains one or two hetero atoms;

each **R₆** is independently H or C₁₋₁₀ alkyl;

15 **R₇** is H or C₁₋₁₀ alkyl which may be interrupted by a heteroatom or when R₁ is alkyl, R₇ and R₁ can join to form a ring;

or a pharmaceutically acceptable salt thereof.

15

2. A compound or salt of claim 1 wherein Y is -CO-.

3. A compound or salt of claim 1 wherein Y is -CO- and R₁ is alkyl, aryl or substituted aryl.

20

4. A compound or salt of claim 2 wherein R₂ is alkyl-O-alkyl.

5. A compound or salt of claim 2 wherein R₂ is H or alkyl.

25

6. A compound or salt of claim 1 wherein Y is -CS-.

7. A compound or salt of claim 6 wherein Y is -CS- and R₁ is alkyl, aryl or substituted aryl.

30

8. A compound or salt of claim 6 wherein R₂ is alkyl-O-alkyl.

9. A compound or salt of claim 6 wherein R₂ is H or alkyl.

10. A compound or salt of claim 9 wherein R₁ is alkyl, aryl, or substituted aryl.

11. A compound or salt of claim 1 wherein X is -(CH₂)₂₋₄-.

5 12. A compound or salt of claim 1 wherein R₁ and R₇ join to form a ring.

13. A compound or salt of claim 1 wherein R₁ and R₇ join to form a morpholine ring.

10 14. A compound or salt of claim 1 wherein R₅ and R₆ are both hydrogen.

15 15. A compound or salt of claim 1 wherein R₃ and R₄ are both methyl.

16. A compound or salt of claim 1 wherein R₃ and R₄ are independently H or alkyl.

15 17. A compound selected from the group consisting of:
N-[4-(4-Amino-2-butyl-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl)butyl]-N'-phenylurea;
N-[4-(4-Amino-2-butyl-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl)butyl]-N'-phenylthiourea;

20 N-{4-[4-amino-2-(ethoxymethyl)-6-methyl-1H-imidazo[4,5-c]pyridin-1-yl]butyl}morpholin-4-ylcarboxamide;
N-[4-(4-amino-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl)butyl]morpholin-4-ylcarboxamide;
25 2-(ethoxymethyl)-6,7-dimethyl-1-{2-[1-(morpholin-4-ylcarbonyl)piperidin-4-yl]ethyl}-1H-imidazo[4,5-c]pyridin-4-amine;
N-[3-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)propyl]morpholin-4-ylcarboxamide;
N-{3-[4-amino-2-(ethoxymethyl)-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl]propyl}morpholin-4-ylcarboxamide;

30 N-{2-[4-amino-2-(ethoxymethyl)-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl]-1,1-dimethylethyl}-N'-phenylurea

N-{2-[4-amino-2-(ethoxymethyl)-6,7-dimethyl-1*H*-imidazo[4,5-*c*]pyridin-1-yl]-1,1-dimethylethyl}morpholin-4-ylcarboxamide; and
N-[2-(4-amino-2,6,7-trimethyl-1*H*-imidazo[4,5-*c*]pyridin-1-yl)ethyl]morpholin-4-ylcarboxamide;
5 or a pharmaceutically acceptable salt thereof.

18. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 1 in combination with a pharmaceutically acceptable carrier.

10 19. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 2 in combination with a pharmaceutically acceptable carrier.

20. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 17 in combination with a pharmaceutically acceptable carrier.

15 21. A method of inducing cytokine biosynthesis in an animal comprising administering a therapeutically effective amount of a compound of claim 1 to the animal.

22. A method of treating a viral disease in an animal comprising administering a therapeutically effective amount of a compound of claim 1 to the animal.

20 23. A method of treating a neoplastic disease in an animal comprising administering a therapeutically effective amount of a compound of claim 1 to the animal.

25 24. A method of inducing cytokine biosynthesis in an animal comprising administering a therapeutically effective amount of a compound of claim 2 to the animal.

25. A method of treating a viral disease in an animal comprising administering a therapeutically effective amount of a compound of claim 2 to the animal.

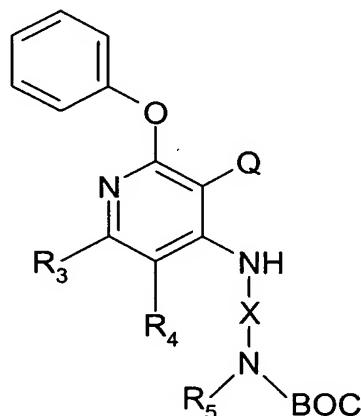
30 26. A method of treating a neoplastic disease in an animal comprising administering a therapeutically effective amount of a compound of claim 2 to the animal.

27. A method of inducing cytokine biosynthesis in an animal comprising administering a therapeutically effective amount of a compound of claim 17 to the animal.

5 28. A method of treating a viral disease in an animal comprising administering a therapeutically effective amount of a compound of claim 17 to the animal.

29. A method of treating a neoplastic disease in an animal comprising administering a therapeutically effective amount of a compound of claim 17 to the animal.

10 30. A compound of the formula (III):



15 wherein: Q is NO₂ or NH₂;

X is alkylene or alkenylene;

R₃ and R₄ are independently selected from the group consisting of hydrogen, alkyl, alkenyl, halogen, alkoxy, amino, alkylamino, dialkylamino and alkylthio; and

20 R₅ is H or C₁₋₁₀ alkyl, or R₅ and X can join to form a ring that contains one or two hetero atoms; or a pharmaceutically acceptable salt thereof.